Abstract

Introduction & Objective: C-shaped canal is formed when a fusion or adhesion occurs on the buccal or lingual side of a tooth between its mesial and distal roots. The aim of this study was to investigate the prevalence of C-shaped canals in the first and second mandibular molars using CBCT.

Materials and Methods: This research was a descriptive analytical cross-sectional study. The statistical population of this study consisted of all CBCT stereotypes of Dr. Baser and Rad Radiology Center in Ardabil, which are available in the archives of the mentioned centers from 2017 to 2019, which were selected using random sampling method and sample units. Evaluation of the C-shaped canal in the first and second molar of the mandible was performed based on the classification of Fan.

Results: Finally, 369 patients were studied, of which 199 (53.9%) were male and 170 (46.1%) were female. 36.3% had the highest frequency between 31-40 years and 3.5% had the lowest frequency over 60 years. Of the 182 people who had the first molar, 11 had a C-Shaped canal, all of which had the shape of a C2 canal. Of the 330 patients with second molars, 18 (20 teeth) were C-Shaped, with 4 out of every 4 types, with C2, C3, C1, and C4 being the most common with 9, 6, 3, and 2, respectively. The frequency of C-shaped canals was significantly higher in men and in the first molar ($P < 0.05$).

Conclusion: The results of this study showed that more C-shaped canals were seen in the first molar than the second molar. Also, only C2 was seen in the first molar, but in the second molar there were all 4 types of canals. It was also observed that the frequency of C-shaped canals was significantly higher in men than in women.

Keywords: C-Shaped canal, the second molar, first molar, mandible.